

ABSTRACT

A ferroelectric gate device which comprises a ferroelectric capacitor (1), a switching element (2) serving as a resistor or a capacitor depending on the voltage applied, and a field-effect transistor (6) having a source, a drain and a gate, said ferroelectric capacitor (1) having an input terminal (IN) at one end, the other end of said ferroelectric capacitor (1) being connected to one end of said switching element (2), the other end of said switching element (2) being connected to the gate of said field-effect transistor (6),

by applying a voltage to said input terminal, said switching element (2) serving as a resistor when a voltage higher than the coercive voltage (V_c) of a ferroelectric substance which said ferroelectric capacitor (1) comprises is applied to said ferroelectric capacitor (1), and

by applying a voltage to said input terminal, said switching element (2) serving as a capacitor when a voltage lower than the coercive voltage (V_c) of said ferroelectric substance is applied to said ferroelectric capacitor (1).